



SPRING START-UP FACT SHEET

Every year the first drive of Spring leads to misery and costly repair bills for many enthusiasts up and down the country. In some cases re-commissioned cars can be a serious danger to their owners and other road users.

This Spring Start-Up fact sheet, compiled from Beaufort Restoration's 30 years' experience in the restoration industry, is designed to help you start your motoring season on the right track and stay on course for a summer full of pleasurable motoring.

If your car is stored in less than ideal conditions, it will be a substantially changed vehicle by Spring. In fact, it is no exaggeration to say that it is safer and better to run a car through winter - even on salted roads - than to store a car without proper care, and then try to start it without thorough preparation.

This fact sheet acknowledges the different conditions in which cars are stored and lays out a simple step by step procedure for your Spring start-up.

In the following guide we have not made particular reference to routine servicing, but assume that will be done in the course of re-commissioning the vehicle and will include engine (and possibly) transmission oil changes, plug cleaning and gapping, cleaning distributor and adjusting points, ignition timing checks, and application of grease gun to all lubrication points.

1. DON'T TRY TO START YOUR CAR ENGINE: This can result in serious damage to the pistons and cylinder bores (see section 4).

2. TAKE A CLOSE LOOK: Make a visual inspection of tyres, engine compartment, interior and undersides. You're looking for anything that's changed over the storage period: rust, perished rubber seals and hoses, excessively deflated tyres, seepages and leaks from engine, gearbox, brake lines, cylinders, axles, half-shafts and wheel bearings.

3. THE BATTERY: While you are completing the tasks described in the rest of this fact sheet, you can charge the battery. First, top up the cells with correct battery fluid (not tap or distilled water). Next, clean battery posts with abrasive paper or wire wool. It should then be trickle charged, either by you or by professionals with the correct equipment. The battery ran down slowly and to ensure long, reliable service it should be charged slowly. Jump starting a discharged battery from another car will shorten your battery life considerably and can be dangerous.

4. THE ENGINE: Any oil will have drained from cylinder bores to the bottom of the sump, so remove the sparking plugs (giving them a clean and setting gaps as you go) and squirt a thimble full of upper cylinder lubricant, such as Redex or light engine oil into each cylinder bore. Now spin the engine over on the starter for 10 to 15 seconds, then replace the plugs.



5. THE COOLING SYSTEM: If the system has been drained, flush the system using a hose. Then refill with the correct proportion of good-quality, anti-freeze solution (which contains a corrosion inhibitor), or with one of the special inhibitor additives on the market. Penrite produces one for use in the older or classic car, and its application is especially important if your car has aluminium or alloy cylinder heads or other engine castings.

Once you've filled the system, inspect for leaks in the radiator core, header tank, at all hose connections (including smaller heater hoses), at cylinder head and water pump gasket joints and most importantly at all the engine core plugs. A leak spotted now could save you an expensive overhaul and breakdown.

If you did not drain the system, you should ideally take this opportunity to drain and replenish the system. Otherwise you must at least use a tester (available from any motor accessory shop) to check the strength of the anti-freeze solution.

6. CHECKING/CHANGING GEAR-BOX AND FINAL DRIVE OIL: You should at least check and top up the oil levels in gearbox and axle casings. If you have any doubt about how many summers the oil has been in there change it, following the manufacturer's original specification recommendations (in some cases modern oils with detergents will not be suitable). A few pounds spent now on new oil can save expensive gear wear and bearing replacements at a later date.

7. PETROL: Remember that petrol deteriorates as it evaporates, so leave no more than a quarter of a tank full over the storage period. Don't drain the tank completely as it may start to rust from the inside. As part of your start-up procedure you should add some fresh petrol. If the petrol has stood unused for over a year it will probably have a strange sweet, smell. In this case drain and dispose of it properly, refilling with fresh.

8. INTERIOR TRIM: This seldom gets a thought at this time of year, but if you have valuable leather upholstery now is the time to "feed" it, before summer sun dries it out further and cracks appear. Use a hide food cream such as the one marketed by Connolly.

9. ELECTRICAL ITEMS: Before installing the battery, check all main electrical connections to see if they are tight and clean. The starter motor is usually too well encased to give it much attention, but if you have a set-up where the Bendix gear is visible through the clutch bell-housing, a light oil spray like WD40 will ensure that it doesn't stick through dryness or rust when first used. If you've got an electric fuel-pump remove the end cover and clean up electrical contact points with a fine abrasive paper. Failure to do this is the cause of many an aborted start-up attempt.

10. Install the battery, making sure terminals securely tightened and smeared with a petroleum-based grease.



11. POSSIBLE PROBLEMS - BRAKES: Now you're ready to roll - not drive - the car out of the garage. The reason you shouldn't try to drive out is that your brakes may have seized (if you've stored the car on axle stands this shouldn't happen as you should not have applied the handbrake. Preferably, store the car without applying the handbrake even if it is resting on its wheels, leaving it in gear or using chocks).

If the disc or drum has seized, put the car in gear, jack the vehicle securely, support it properly on a stout axle stand and lever the wheel in a forward rotation. Don't use excessive force though. If it doesn't shift, strip the drum or disc and clean rust off using coarse abrasive paper or emery cloth (do not breathe the dust resulting from this - wear a mask).

12. PRIMING THE CARBURETTORS: Once you've rolled the car out, it's time to prime the fuel pump by hand (mechanical types) if possible. You can also put some fresh petrol in the float bowl of the carburettor. Now turn the ignition switch on and if you have an electric fuel pump listen for its ticking.

13. If all's well you're ready to start using your normal cold starting procedure.

14. WARM-UP CHECKS: With the engine warming up you should take a walk round the car, looking at the engine bay for any leaks, and listening for unusual sounds, for example a blow in the exhaust caused by a rust hole developing over the storage period.

Check all the lights, horn and other electrical gear and pump road tyres and spare to correct pressure.

Now is also a good time to inspect tyre tread and sidewalls for wear, cracking and foreign objects.

15. CLUTCH OPERATION CHECK: At this point you're ready for a gentle trial run and you may encounter one of the more common start-up problems, a seized clutch. There are two ways to solve this problem. One is to safely support the driven wheels clear of the ground, securely blocking the other wheels. Start the engine with a gear engaged and snatch the brakes on and off with the clutch depressed.

If this doesn't work, you can try roll starting your car in second gear (on a safe, quiet road with plenty of space in front of you) and then apply the clutch and brake together at about 10mph. But be aware that this can damage the transmission.

If after several attempts neither approach works the only alternative, unfortunately, is to remove the engine or gearbox to free the clutch plate from flywheel. Clean the flywheel face with abrasive paper.

16. TEST RUN CHECKS: Assuming these problems are sorted you should now take off on a short and gentle trial run, assessing the brake pedal for firmness, listening for unusual sounds, and checking that the car feels right.



The work's nearly done, but after your run there are a few more checks to do. Even if your car is stored in relatively dry conditions rust deposits can build up. If they occur where metal meets rubber seals, the corrosion can destroy the delicate edges of the rubber seal on the seal path, causing leaks.

Check brake and clutch fluid levels, examine the inner surfaces of all wheels for leaking brake fluid and bearing grease, and conduct a visual inspection for oil, petrol and coolant/anti-freeze leaks.

17. **RECORDS:** Now is a good time to take a note of your mileage and use this as the basis for your routine servicing schedule.

18. And now you're ready to roll and enjoy a vintage summer of classic motoring.